

PRODUCTION OF HIGHLY THERMOSTABLE FRUCTOFURANOSIDASE BY
ASPERGILLUS VERSICOLOR

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β -Fructofuranosidase (E.C. 3.2.1.26) catalyses the hydrolysis of sucrose into glucose and fructose. It is extensively used in confectioneries, food industries as artificial sweeteners and in pharmaceuticals. The fructofuranosidase production was investigated using agroindustrial wastes as carbon source in solid-state fermentation by fungus *Aspergillus versicolor*. Several agro industrial wastes sources were tested to induce fructofuranosidase. The better inducers were barley bagasse (52.44 Utotais) followed by wheat germ (23.3 Utotais), immature corn bagasse (16.22), passion fruit husk (13.38 Utotais), orange husk (12.64 Utotais) and ponkan husk (10.46 Utotais). The highest fructofuranosidase production was obtained in 6 days with 13.15 U/mg protein of specific activity in the barley bagasse in solid-state fermentation. The high hydrolytic activity of fructofuranosidase occurred in pH 4.5 and in the temperature optimal at 65 to 70°C. Enzyme exhibited thermoresistence in high temperatures such as 65 to 75°C. At 65°C and 70°C temperatures it was observed an insignificant lost of activity, but it was recovered 85% and 51%, respectively of residual activity until 90 minutes of reaction. The maximum fructofuranosidase activity in high temperature and thermo stability were exhibited by *A. versicolor* in an interesting characteristic that distinguishes this enzyme from all others fungi described in literature.

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